Safety in the design of production lines

This paper is a case study report on how safety considerations were handled in the process of redesigning a production line. The design process was characterized as a specification and negotiation process between engineers from the company and the supplier organization. The new production line became safer, but not as a result of any intentional plan to integrate safety aspects into the design process. Instead, the supplier’s design of a new piece of equipment had a higher built-in safety level. The engineering team in the company was aware of the importance of safety aspects neither in the specification material nor in their face-to-face meetings with the supplier. Safety aspects were not part of their work practice. On this basis, it was suggested that formal guidelines or procedures for integrating safety in the design of production lines would have no effect. Instead, the researchers set up a ‘history workshop’ with the engineering team. The workshop clarified the sequence of events and discussions that took place during the design process and opened for a discussion of the role of safety aspects. During the workshop new insights emerged into the question of how to integrate safety aspects in the company’s future design processes.

Forebyggelse af arbejdsulykker - et sikkerhedskulturaspekt

Forebyggelse af arbejdsulykker - et sikkerhedskulturaspekt
Organizations in context: proposal for a new theoretical approach in prescriptive accident research

Lately, requests have been made for including the contexts of enterprises in models to prevent accidents at work. This paper/article presents different contextual theories in order to prove/analyze whether this type of theories could be a way to introduce the context. A differentiation is made between understanding the processes in the enterprises and understanding the contextual relations. Decision-making theories are used to explain the internal processes. And regulatory approaches are used to describe the role of the state in regard to accident prevention in enterprises. Eventually, contextual theories are presented as theories to perceive the relation between enterprise and context. The conclusion is that there is a basis for using contextual theories in a new approach, but also an investigation of the potentials for making the theories action-orientated is needed.

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Accident prevention in a contextual approach
Many recommendations on how to establish an accident prevention program do exist. The aim of many agencies is to promote the implementation of these recommendations in enterprises. The discussion has mainly focused on incentives either in the form of an effective enforcement of the law or as a focus on developing the insurance system to establish (economic) motivation. This paper suggests a more elaborated theoretical approach emphasising a differentiated understanding of the external and internal actors and how these relations form the actions of the actors. The theoretical components of such a contextual approach is shortly described and demonstrated in relation to a Danish case on accident prevention. It is concluded that the approach presently offers a post-ante, descriptive analytical understanding, and it is argued that it can be developed to a frame of reference for planning actions and programs on accident prevention.
Advantages and disadvantages by using safety culture

Safety culture is a major issue in accident research. A recently finished ph.d.-study has evaluated the symbolic safety culture approach and found four advantages and two disadvantages. These are presented and discussed in this contribution. It is concluded that the approach can be useful in the planning of accident prevention activities if focus is maintained on prevention of accidents and not on changing of the safety culture.

A qualification of the concept safety culture

The point of departure for this contribution is a disappointing status of the Danish work environment regulation and accident prevention. The number of reported accidents at work is maintained at a high level. One explanation is the lack of common intervention methods appropriated to Danish workplaces and the contribution communicates ongoing work with such a method, including political, cultural and structural elements. A selective study of literature within safety culture, corporate culture and organisational theory has shown that the safety culture approach can benefit from the organisational culture approaches of Alvesson and Geertz and organisational theory dealing with political processes (Pettigrew, Knights). The implicit models of organisation and man within mainstream safety culture approaches seems to be too rationalistic compared with day to day life of organisations. The concept of a multicultural organisation thus aims at encompassing the multitude of actor positions within an organisation with a possible influence on the preventive work. The planning of the intervention is furthermore not made once in the beginning but should rather be anticipated as an ongoing negotiation. Central elements of the intervention can be, and should be, changed in order to achieve forms of prevention. A case study
of a manufacturing enterprise, is used to demonstrate the benefits of mobilizing these additional approaches. It is shown how different sets of meaning assigned to accidents -cultures- are in conflict and that the accident analysing process leads to the domination of one of them; the "faulty human behaviour" perception, thus subjugating the workers view. Hence an intervention method aiming at the prevention of accidents must built on, first an understanding of an organisation as a Multi-cultural Organisation. Second on change processes as political processes where the needed change has to be negotiated and reshaped in order to build the necessary alliances.

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